

IN THE CLAIMS:

Please amend Claims 1, 6, 11 and 12 as shown below. The claims, as pending in the subject application, now read as follows:

1. (Currently amended) A data conversion method of performing image processing on image data expressed in plural components by using a multi-dimensional look-up table, and outputting processed image data, comprising the steps of:

setting grid positions of the multi-dimensional look-up table which has grids arranged at non-uniform intervals;

generating a weight table to store weight values based on the set grid positions, wherein each of the weight values is calculated by an integer computation using distance between positions of input data and grids adjacent to the input data, and is multiplied by a constant which is a power of 2 greater than the intervals of the grids;

obtaining the weight values corresponding to the plural components of input image data by referring to the weight table;

determining a relationship of greater or smaller among the weight values;

obtaining output data of grids of the multi-dimensional look-up table which corresponds to the input image data; and

calculating the processed image data, which corresponds to the input image data, by interpolation using the obtained output data, the obtained weight values, [[and]] the constant, and an expression corresponding to the determined result of the determining step, wherein the interpolation is executed by an integer computation and uses the constant as a divisor.

2. and 3. (Canceled)

4. (Previously presented) The method according to claim 1, wherein the grid positions corresponding to each of the components are set the same.

5. (Previously presented) The method according to claim 1, wherein the input image data is expressed in one of RGB, CMY, and XYZ color spaces.

6. (Currently amended) A data conversion apparatus for performing image processing on image data expressed in plural components by using a multi-dimensional look-up table, and outputting processed image data, comprising:

a setting section, arranged to set grid positions of the multi-dimensional look-up table which has grids arranged at non-uniform intervals;

a generator, arranged to generate a weight table to store weight values based on the set grid positions, wherein each of the weight values value is calculated by an integer computation using distance between positions of input data and grids a grid adjacent to the input data, and is multiplied by a constant which is a power of 2 greater than the intervals of the grids;

a first obtaining section, arranged to obtain the weight values corresponding to the plural components of input image data by referring to the weight table;

a determiner, arranged to determine a relationship of greater or smaller among the weight values;

a second obtaining section, arranged to obtain output data of grids of the multi-dimensional look-up table which corresponds to the input image data; and

a computation section, arranged to calculate the processed image data, which corresponds to input image data, by interpolation using the obtained output data, [[and]] the obtained weight values, [[and]] the constant, and an expression corresponding to the determination result of said determiner, wherein the interpolation is executed by an integer computation and uses the constant as a divisor.

7. to 10. (Canceled)

11. (Currently amended) A computer program product stored on storing a computer readable medium comprising having a computer program code, for a data conversion method of performing image processing on image data expressed in plural components by using a multi-dimensional look-up table, and outputting processed image data, the method product comprising the steps of process procedure codes for:

setting grid positions of the multi-dimensional look-up table which has grids arranged at non-uniform intervals;

generating a weight table to store weight values based on the set grid positions, wherein each of the weight values value is calculated by an integer computation using distance between positions of input data and grids a grid adjacent to the input data, and is multiplied by a constant which is a power of 2 greater than the intervals of the grids;

obtaining the weight values corresponding to the plural components of input image data by referring to the weight table;

determining a relationship of greater or smaller among the weight values:

obtaining output data of grids of the multi-dimensional look-up table which corresponds to the input image data; and

calculating the processed image data, which corresponds to the input image data, by interpolation using the obtained output data, [[and]] the obtained weight values, the constant, and an expression corresponding to the determination result of the determining step, wherein the interpolation is executed by an integer computation and uses the constant as the divisor.

12. (Currently amended) A computer readable medium storing recorded data which is used in data conversion processing to process image data expressed in plural components by using a multi-dimensional look-up table, and to output processed image data, the recorded data comprising:

data for indicating grid positions of the multi-dimensional look-up table which has grids arranged at non-uniform intervals;

data for generating a weight table to store weight values based on the set grid positions, wherein each of the weight values value is calculated by an integer computation using distance between positions of input data and grid adjacent to the input data, and is multiplied by a constant which is a power of 2 greater than the intervals of the grids, and the weight table is used for obtaining the weight values corresponding to the plural components of input image data; and

data representing a computation for calculating the processed image data corresponding to the input image data by interpolation using output data of grids of the multi-dimensional look-up table corresponding to the input image data, [[and]] the obtained weight values, the constant, and an expression corresponding to a determination result of determining a

relationship of greater or smaller among the weight values, wherein the interpolation is executed by an integer computation and uses the constant as a divisor.

13. to 23. (Canceled)